查询IXFH40N30Q供应商

IXYS

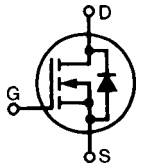
HiPerFET™ Power MOSFETs Q-Class

IXFH 40N30Q
IXFT 40N30Q

V_{DSS} = 300 V
I_{D25} = 40 A
$R_{DS(on)}$ = 80 mΩ
t_{rr} ≤ 250 ns

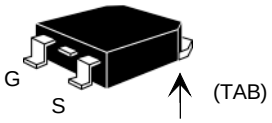
N-Channel Enhancement Mode
Avalanche Rated, High dv/dt, Low Q_g

Preliminary data sheet

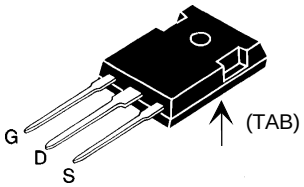


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C	300	V
V_{DGR}	T_J = 25°C to 150°C; R_{GS} = 1 MΩ	300	V
V_{GS}	Continuous	±20	V
V_{GSM}	Transient	±30	V
I_{D25}	T_C = 25°C	40	A
I_{DM}	T_C = 25°C, pulse width limited by T_{JM}	160	A
I_{AR}	T_C = 25°C	40	A
E_{AR}	T_C = 25°C	30	mJ
E_{AS}	T_C = 25°C	1.0	J
dv/dt	$I_S \le I_{DM}$, di/dt ≤ 100 A/µs, $V_{DD} \le V_{DSS}$, $T_J \le 150°C$, R_G = 2 Ω	5	V/ns
P_D	T_C = 25°C	300	W
T_J		-55 ... +150	°C
T_{JM}		150	°C
T_{stg}		-55 ... +150	°C
T_L	1.6 mm (0.062 in.) from case for 10 s	300	°C
M_d	Mounting torque	1.13/10	Nm/lb.in.
Weight	TO-247	6	g
	TO-268	4	g

TO-268 (IXFT) Case Style



TO-247 AD (IXFH)



G = Gate D = Drain
S = Source TAB = Drain

Symbol	Test Conditions (T_J = 25°C, unless otherwise specified)		Characteristic Values Min.	Typ.	Max.	
V_{DSS}	V_{GS} = 0 V, I_D = 250 µA		300			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, I_D = 4 mA		2.0		4	V
I_{GSS}	V_{GS} = ±20 V_{DC}, V_{DS} = 0				±100	nA
I_{DSS}	$V_{DS} = V_{DSS}$	T_J = 25°C			25	µA
	V_{GS} = 0 V	T_J = 125°C			1	mA
$R_{DS(on)}$	V_{GS} = 10 V, $I_D = 0.5\ I_{D25}$ Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %				80	mΩ

Features

- IXYS advanced low Q_g process
- International standard packages
- Low gate charge and capacitance
  - easier to drive
  - faster switching
- Low $R_{DS\ (on)}$
- Unclamped Inductive Switching (UIS) rated
- Molding epoxies meet UL 94 V-0 flammability classification

Advantages

- Easy to mount
- Space savings
- High power density

IXYS reserves the right to change limits, test conditions, and dimensions.

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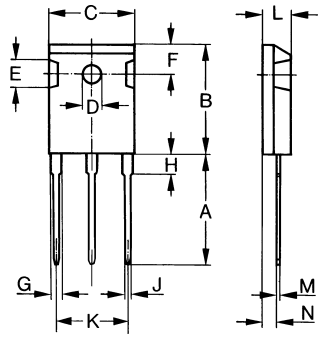
Symbol	Test Conditions (T_J = 25°C, unless otherwise specified)	Characteristic Values Min.	Typ.	Max.	
g_{fs}	V_{DS} = 10 V; I_D = 0.5 I_{D25}, pulse test	22	30		S
C_{iss}	V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz		3100		pF
C_{oss}			650		pF
C_{rss}			150		pF
$t_{d(on)}$	V_{GS} = 10 V, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25} R_G = 1.5 Ω (External)		20		ns
t_r			35		ns
$t_{d(off)}$			40		ns
t_f			12		ns
$Q_{g(on)}$	V_{GS} = 10 V, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}		95	140	nC
Q_{gs}			25	35	nC
Q_{gd}			54	70	nC
R_{thJC}				0.42	K/W
R_{thCK}	(TO-247)		0.25		K/W

Source-Drain Diode

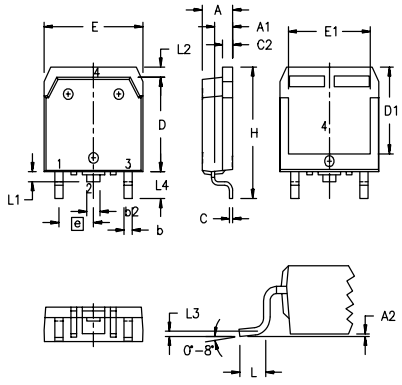
Symbol	Test Conditions (T_J = 25°C, unless otherwise specified)	Characteristic Values min.	typ.	max.	
I_S	V_{GS} = 0 V			40	A
I_{SM}	Repetitive;			160	A
V_{SD}	$I_F = I_S$, V_{GS} = 0 V, Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %			1.5	V
t_{rr}	$I_F = I_S$-di/dt = 100 A/µs, V_R = 100 V			250	ns
Q_{RM}			0.85		µC
I_{RM}			8		A

TO-247 AD (IXFH) Outline



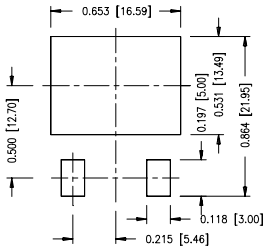
Dim.	Millimeter Min.	Max.	Inches Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

TO-268AA (D^3 PAK)



Dim.	Millimeter Min.	Max.	Inches Min.	Max.
A	4.9	5.1	.193	.201
A_1	2.7	2.9	.106	.114
A_2	.02	.25	.001	.010
b	1.15	1.45	.045	.057
b_2	1.9	2.1	.75	.83
C	.4	.65	.016	.026
D	13.80	14.00	.543	.551
E	15.85	16.05	.624	.632
E_1	13.3	13.6	.524	.535
e	5.45 BSC		.215 BSC	
H	18.70	19.10	.736	.752
L	2.40	2.70	.094	.106
L1	1.20	1.40	.047	.055
L2	1.00	1.15	.039	.045
L3	0.25 BSC		.010 BSC	
L4	3.80	4.10	.150	.161

Min. Recommended Footprint



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IXYS MOSFETS and IGBTs are covered by one or more of the following U.S. patents:
4,835,592 4,881,106 5,017,508 5,049,961 5,187,117 5,486,715
4,850,072 4,931,844 5,034,796 5,063,307 5,237,481 5,381,025